

SUPPLEMENTARY NOTES ON THE AMERICAN SPECIES

OF STRYCHNOS. XVI.

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Since the latest paper of this series (Supplement XV) was published, 59 new collections were examined. Substantial progress is being made in exploring Northern Venezuela as well as Amazonian Brazil and Peru.

The newly examined collections added to our knowledge of several species, extension of range were noted for six and one species, namely Strychnos ecuadoriensis Krukoff & Barneby, was described as new.

Of particular interest are collections from Northern Venezuela (Sucre & Lara) where time and again we find species previously known from the basin of the Amazon. Strychnos toxifera, as in the past, was found in most unexpected localities, that is in Antioquia, Colombia as well as near Manaus, which locality was well collected previously. (See Supplement XV.)

1. Strychnos chlorantha Progel in Mart. Fl. Bras. 6(1):273. 1868.

Guatemala: Alta Verapaz: Sacte, Irene Kunkel s.n. (16/5-1976) (EAP).

Local name: Ixbam.

8. Strychnos barnhartiana Krukoff, Brittonia 4:268. 1942.

Brazil: Amapa: B. G. S. Ribeiro 1799 (IAN).

9. Strychnos araguaensis Krukoff & Barneby, Mem. N. Y. Bot. Gard. 20(1):24. 1969.

Brazil: Para: Serra do Cachimbo, Prance 25203 (northern foothills), 25307 (alt. +350 m).

Both collections are from terra firme.

12. Strychnos panamensis Seeman, Bot. Voy. Herald 166. 1854.

Honduras: Yoro: 3 kms NW of Santa Rita, W. E. Harmon 3884 (MO). Panama: Darien: Cerro Tacarcuna, alt. 1400-1600 m, Al.

Gentry 16871 (MO). Venezuela: Zulia: Santa Barbara, Santiago López-Palacios 1897 (MERF). Colombia: Chocó: Al. Gentry 17176 (MO).

This is the first record of the species from Honduras.

13. Strychnos tabascana Sprague & Sandwith, Kew Bull. 1927: 128. 1927.

Mexico: Veracruz: Catemaco, silva alta primaria, R. Hernandez M. 1375 (F), J. H. Beaman 5153 (F). Belize: T. Arnason 17062 (MO).

15. Strychnos bahiensis Krukoff & Barneby, Mem. N. Y. Bot. Gard. 20(1):29. 1969.

The holotype of this species deposited in NY is correctly labeled as R. P. Belem 1818, whereas that of S. atlantica as R. P. Belem & R. S. Pinheiro 3228. They are also correctly cited in the original descriptions.

Two typographical errors were made, however, one in Supplement XI, Phytologia 22:236. 1971 where Belem & Pinheiro 3228 is cited as S. bahiensis, which error was perpetuated in Index of Exsiccatae, (Lloydia 35:262. 1972). It is also likely that "Belem 8228" cited in the same Index as S. atlantica does not exist and it is a typographic error for "3228". This specimen is not in the NY Herbarium and is not cited in any of my papers.

18. Strychnos medeola Sagot ex Progel in Martius, Fl. Bras. 6 (1):282. 1868.

Brazil: Para: Serra do Cachimbo, Tucurui, Transamazonica, km 115-120, A. S. Silva 169.

19. Strychnos toxifera Robert Schomburgk ex Bentham, Jour. Bot. Hook. 3:240. 1841.

Colombia: Chocó: near sea level, Al. Gentry 17171 (MO); Antioquia: alt. 400-900 m, D. Soejarto 3934 (MO).

This is the first record of this species from Antioquia.

20. Strychnos tomentosa Bentham, Jour. Linn. Soc. 1:104. 1856.

Venezuela: Sucre: Rio Grande, Victor Carreño Espinosa s.n. (30/6-1973) (VEN); Lara: Terepaimo, R. F. Smith 7415 (VEN).

These are new records of the species from Sucre and Lara.

25. Strychnos pseudo-quina A. St. Hilaire, Mém. Mus. Paris 9:340. 1822.

Brazil: Goias: Luziana, G. Hatschbach 36385.

31. Strychnos peckii B. L. Robinson, Proc. Amer. Acad. 49:504. 1913.

French Guiana: Saul: Fr. Halle 98, 2274. Peru: Loreto: Maynas, Juan Revilla 751 (MO).

32. Strychnos erichsonii Richard Schomburgk, Reisen 3:1082. 1848. Nomen; ex Progel in Mart. Fl. Bras. 6(1):274. 1868.

Brazil: Para: Serra do Cachimbo, Cuiaba-Santarem highway, km 1339, Rio Ariri, Prance 25714. Peru: Loreto: Al Gentry 16665 (Rio Mazán), Juan Revilla 1158 (MO).

- 32a. Strychnos croatii Krukoff & Barneby in Phytologia 33:313. 1976.

Panama: Colon: alt. 50-200 m, T. B. Croat 37023 (MO); Panama: Croat 34790 (MO) (alt. 350-375 m), M. D. Correa 1660 (MO) (alt. 300-400 m); San Blas: Duke 14733A (MO). Colombia: Choco: alt. +100m, Al Gentry 17822 (MO).

This is the first record of the species from San Blas.

35. Strychnos bredemeyeri (Schultes) Sprague & Sandwith, Kew Bull. 1927:128. 1927.

Venezuela: Sucre: alt. +280 m, Steyermark 108470 (VEN); Terr. Fed. Amazonas, alt. +100 m, G. Morillo 4134-A (VEN).

This is the first record of the species from Sucre.

- 36a. Strychnos mitscherlichii Richard Schomburgk, Reisen 2:451. 1848, var. mitscherlichii.

Brazil: Amazonas: J. M. de Albuquerque 43 (INPA) (Manaus), C. D. Mota 146 (INPA) (Porto Velho), Prance 23956 (INPA) (Rio Javari); Rondonia: M. R. Cordeiro 777. Peru: Loreto: Maynas, Juan Revilla 981 (MO).

38. Strychnos darienensis Seemann, Bot. Voy. Herald 166. 1854.

Peru: Loreto: Al. Gentry 18416 (Rio Itaya, varzea), 16681 (Rio Nanay, between Iquitos and Puerto Almendra, alt. ± 120 m).

38a. Strychnos ecuadoriensis Krukoff & Barneby sp. nov.

Sect. Strychno pertinens, inter quos inflorescentiis axillaribus simul ac calycis lobis lineari-lanceolatis, corollae tubo intus glabro, styloque glaberrimo praestat.

Macroscopic: petioles 1-4 mm long, blades narrowly elliptic, 5.5-12 cm long, 2.5-5 cm broad, narrowed at base, acuminate at apex, dull on both surfaces, membranaceous to chartaceous, 3-plinerved with the inner pair alternate, and diverging at 1-1.5 cm from base, reticulation obscure or faint above, prominent below. Microscopic: petioles and blades are essentially glabrous in all parts; leaf-blades not verrucular above or beneath, not barbate and without a membranaceous pocket beneath in axils of the inner principal nerves.

Inflorescences axillary, the glabrous peduncle is very short, ± 1 cm; calyx-lobes linear-lanceolate (calyx ± 0.8 mm and lobes ± 1 mm), glabrous; corolla-tube ± 2.1 mm (immature), and lobes ± 1.3 mm, glabrous inside and outside; anthers sessile, ± 0.8 mm; style glabrous, ± 2.5 mm long.

Fruits not seen.

Ecuador: Napo; 4.2-7.5 km W. of Lago Agrio (5-8.2 km E of Rio Conejo) near Lago Agrio-Baeza road; rainforest, alt., ca 340 m, B. MacBryde & J. D. Dwyer 1363 (MO-holotype, NY-fragment of holotype).

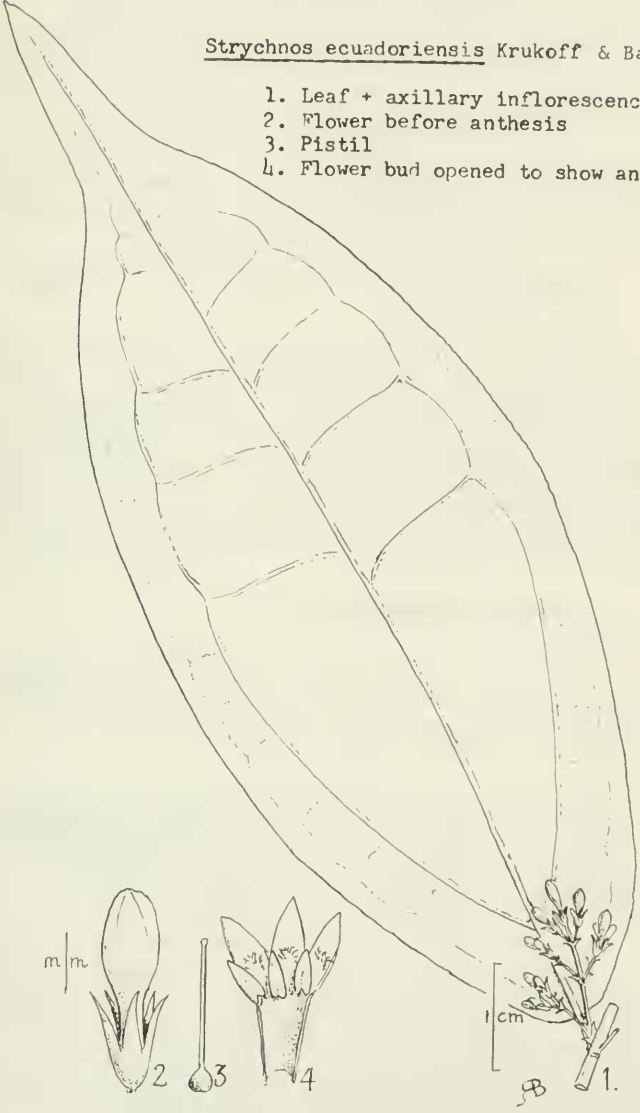
Shrub 2 m high with cream flowers, collected on March 31, 1972 and devoid of tendrils or spines.

The following combination of characters distinguishes S. ecuadoriensis from all known species of section Strychnos: inflorescences axillary, style glabrous, calyx-lobes linear-lanceolate and corolla-tube glabrous inside. The sterile specimens are distinguished by the following characters: leaf-blades are essentially glabrous above and beneath, dull, membranaceous to chartaceous, not verrucular above or below, not barbate and without a membranaceous pocket beneath in axils of the inner principal nerves, essentially 3-plinerved.

This species is very distinct not only in Sect. Strychnos but from all members of the other two sections. We are placing it at the end of the Sect. Strychnos.

Strychnos ecuadoriensis Krukoff & Barneby

- 1. Leaf + axillary inflorescence
- 2. Flower before anthesis
- 3. Pistil
- 4. Flower bud opened to show anthers



The holotype is from the small shrub +2 m high without spines or tendrils, growing on the low elevation in the rain forest. It is probably a vine at maturity and posses tendrils. It's fruits probably are of small size with thin shells. In the section Strychnos only S. medeola is a weak vine confined to the understory of the rain forest. Of the thirty nine spp. of Sect. Strychnos only eleven spp. have glabrous style and none of these have calyx-lobes linear lanceolate.

In the Sect. Breviflorae only the very distinct S. parviflora has axillary inflorescences. In the Sect. Rouhamon six species have style and ovary glabrous and they are distinguished at a glance from S. ecuadoriensis.

39. Strychnos guianensis (Aublet) Martius, Syst. Mart. Med. Bras. 121. 1843.

Venezuela: Terr. Fed. Amazonas: Rio Guayapo, alt. + 150 m, Gilberto Morillo 3450 (VEN). Brazil: Para: Ilha de Marajó, P. Lacerda 75 (IAN); Amazonas: Prance 17850 (INPA) (Rio Cuieras), F. Mello s.n. (23/04-1976) (INPA) (munic. Coari), N. T. Silva 4188 (IAN) (Rio Jandiatuba), S. A. Mori 9206 (upper Solimoes, near Colombian border); Acre: Cruzeiro do Sul, O. F. Monteiro 596 (INPA); Rondonia: Igarapé Preto, B. G. S. Ribeiro 1079 (MG). Peru: Loreto: Maynas, J. Revilla 405 (MO) Al. Gentry 18343 (MO) (mouth of Rio Javari).

42. Strychnos bicolor Progel, Vidensk. Meddel. 1869:31. 1869.

As late as in 1972 (Lloydia 35:235. 1972) S. bicolor was separated from closely related S. guianensis by leaf-blades beneath densely fulvons-velutinous, above grey-glaucous and with conspicuous fulvous line on midrib.

Their ranges were thought to be distinct, S. bicolor occurring in Minas Gerais, the Federal District, Mato Grosso and São Paulo in central Brazil, whereas S. guianensis was known to be well distributed in the basin of the middle and upper Rio Orinoco and throughout the entire Amazon basin.

Abundant recent collections from Goiás, the Federal District and Minas Gerais indicate that the concept of S. bicolor has to be changed. Some of the specimens are almost glabrous beneath but still grey-glaucous above, others almost glabrous beneath and even not grey-glaucous above. Eventually S. bicolor likely will have to be reduced to the synonymy of S. guianensis or retained as a form with a much restricted range in the State of Sao Paulo and adjacent regions. I am unable to do this even though, as per my card-

files, 25 collections of S. bicolor were seen by me, only a few are deposited in NY. Furthermore, field work is needed before this problem can be satisfactorily resolved.

43. Strychnos panurensis Sprague & Sandwith, Kew Bull. 1927:132. 1927.

Venezuela: Bolivar: Francisco Delascio Chitti 2790
(VEN). Colombia: Chocó: Al. Gentry 17797.

This species is not found in Minas Gerais (see under "Changes in the Identifications" in this paper).

54. Strychnos atlantica Krukoff & Barneby, Mem. N. Y. Bot. Gard. 20(1):61. 1969.

For two typographical errors in Suppl. XI and Index of Exsiccatae, see under S. bahiensis.

55. Strychnos rubiginosa A.DC., Prodr. 9:16. 1845.

Brazil: Bahia: Remanso, margem BR-235, Dardano de A. Lima s.n. (18/8-1973).

65. Strychnos mattogrossensis S. Moore, Trans. Linn. Soc. II. 4:392. 1895.

Peru: Loreto: Requena, Juan Revilla 707.

69. Strychnos poeppigii Progel in Mart. Fl. Bras. 6(1):282. 1868.

Peru: Loreto: Maynas, S. McDaniel 15267 (MO), 16163 (MO).

70. Strychnos tarapotensis Sprague & Sandwith, Kew Bull. 1927:131. 1927.

Peru: Loreto: Maynas, Juan Revilla 574 (MO), 575 (MO), 611 (MO), 815 (MO), Al. Gentry 18348 (MO); Huánuco: T. Plowman 5770 (F).

ERRORS IN SUPPLEMENT XV (Phytologia 26: June 1971)

page 18, under S. rondeletiodes - Paul E. Berry 638 should read 658.

page 18, under S. brachiata - J. Schunke 2310 should read 8310.

page 21, under S. guianensis, Mori & Prance 2206 should read 9206.

page 22, under S. tarapotensis - T. Plowman & H. Kennedy 3812
should read 5812.

Changes in the identifications

	Cited originally as	Cited later as
G. Hatschbach 30032	panurensis Suppl. XIV, p. 316	gardneri Suppl. XVI
J. C. Lindeman 234	mitscherlichii var. mitscher- lichii Suppl. XV, p.20	cogens Suppl. XVI
J. C. Lindeman 734	mitscherlichii var. mitscher- lichii Suppl. XV, p.20	cogens Suppl. XVI
G. T. Prance 22506	rondeletiioides Suppl. XIV, p. 308	xinguensis Suppl. XVI
G. T. Prance 23126 (sterile)	hirsuta Suppl. XIV, p. 316	sandwithiana Suppl. XVI

Bibliography

(In order to conserve space, I am citing here only the papers which are not cited in Suppl. VII-XV.)

72. Krukoff, B. A. Supplementary notes on the American species of *Strychnos*. XV. *Phytologia* 36:17-22. 1977.

List of Exsiccatae

The first list of Exsiccatae covering my papers on *Strychnos*, including Supplement XI, was published in *Lloydia* 35(3): 262-270. 1972. The second list of Exsiccatae covering Supplements XII, XIII and XIV was published in *Phytologia* 33:319-322. 1976. The present list of Exsiccatae covers Supplements XV and XVI. The number in parenthesis corresponds with the species - number of this and other papers (Supplements XII to XV). Only numbered collections and those of which the dates of collection are recorded have been listed. If a collector gathered his collection together with others, only his name is cited in this list. Collections with Dr. Prance's number are cited under Prance.

Albuquerque, J. M. de, 43 (36a).

Arnason, T., 17062 (13).

Beaman, J. H., 5153 (13).

Berry, Paul E., 658 (6), 1405 (24), 1447 (24), 1544 (21), 1607 (35).

Breedlove, D. E., 30708 (12), 33158 (13), 38882 (13).

Chitti, Francisco Deslascio, 2790 (43), 3146 (12).

Cordeiro, M. R., 777 (36a).

Correa, M. D., 1660 (32a).

Croat, T. B., 10097 (12), 12403 (69), 21935A (12), 24961 (63), 34790 (32a), 37023 (32a), Transect 114 (32a).

Duke, J. A., 13331 (43), 14733A (32a), 15800 (43).

Espinosa, Victor C., s.n. (30/6-1973) (20).

Gentry, A., 9430 (12), 15196 (19), 16665 (32), 16675 (39), 16677 (6), 16681 (38), 16871 (12), 17171 (19), 17176 (12), 17797 (43), 17822 (32a), 18343 (39), 18348 (70), s.n. (Jan. 1976) (6).

Goodland, R., 461 (19).

Halle, Fr., 98 (31), 2274 (31).

Handro, Oswaldo, 439 (25).

Harmon, W. E., 3884 (12).

Hatschbach, G., 33409 (11), 34010 (25), 35135 (59), 35591 (64), 35625 (59), 36072 (25), 36385 (25).

Herbarium Jard. Botan. Rio, 55680 (59), 109209 (11), 114491

(11), 114845 (56), 130177 (25), 141312 (59), 141313 (59).

Hernández, M. R., 1375 (13).

Kunkel, Irene, s.n. (16/5-1976) (1).

Lacerda, P., 75 (39).

Lima, Dardano de, s.n. (18/8-1976) (55).

Lindeman, J. C., 234 (47), 522 (32), 734 (47).

Lopez-Palacios, Santiago, 1897 (12).

MacBryde, B., 1363 (38a).

McDaniel, S., 15267 (69), 16163 (69).

Mello Filho, Luiz Emygdio de, s.n. (23/04-1976) (39).

Monteiro, O. F., 596 (39).

Mori, S., 8493 (48), 9036 (39), 9121 (32), 9126 (32), 9206 (39).

Morillo, Gilberto, 3450 (39), 4134-A (35).

Mota, C. D., 146 (36a).

Ortiga, Alberto T., 401 (31).

Plowman, T., 5067 (70), 5770 (70), 5812 (70).

Prance, G. T., 17850 (39), 21206 (6), 21207 (6), 21254 (28),
21502 (35), 22506 (26), 22884 (28), 23126 (23), 23403
(6), 23438 (47), 23445 (36a), 23569 (19), 23956 (36a),
24426 (36a), 24541 (32), 24699 (32), 25203 (9), 25307
(9), 25714 (32).

Revilla, Juan, 172 (39), 174 (6), 405 (39), 574 (70), 575 (70),
611 (70), 707 (65), 751 (31), 815 (70), 981 (36a),
1158 (32).

Ribeiro, B. G. S., 1079 (39), 1799 (8).

Rodrigues, W., 9519 (24).

Sastre, C., 766 (10), 4024 (32).

Schunke.V., José, 39 (31), 40 (36a), 42 (31), 43 (23), 44 (43),
56 (23), 8144 (37), 8150 (70), 8310 (10).

Silva, A. C., 169 (18).

Silva, Nilo T., 3352 (18), 4188 (39).

Smith, R. F., 7415 (20).

Sóejarto, D. D., 3934 (19).

Steyermark, J. A., 108470 (35).